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Application No. 10/721,258
Reply to Office Action dated 05/22/2006

Docket No.: 215407-106243

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A filter assembly, ~~for filtering a fluid, said filter assembly comprising:~~

a ~~substantially annular~~ filter element having first and second ends;

a filter housing containing said filter element, ~~said filter housing having a first end, a second end and a substantially cylindrical side wall defining an annular space between said side wall and said filter element;~~

an end plate secured to a [[[said]]] first end of said filter housing, ~~said end plate having at least one fluid inlet therethrough adjacent to said first end of said filter element so that said fluid enters said filter housing through said at least one fluid inlet and flows into said annular space;~~ and

a directional fluid insert disposed between said first end of said filter element and said end plate, wherein the directional fluid insert includes

a base ring having at least one [[[of]]] fluid-directing fin disposed radially-
extending from an outer circumferential surface of said base ring, and between said first
end of said filter element and said end plate, said at least one of fin provided to cause
said fluid entering said filter housing through said at least one fluid inlet to swirl around
said filter element

one or more flexible mounting tabs that axially extend from said at least one
fluid-directing fin.

2. (Original) The filter assembly as defined in claim 1, wherein said end plate is permanently secured to said first end of said filter housing.

3. (Currently Amended) The filter assembly as defined in claim 1, wherein said end plate includes is further provided with

at least one fluid inlet adjacent to said first end of said filter element; and
at least one fluid outlet therethrough.

4. (Currently Amended) The filter assembly as defined in claim 1, wherein [[[a]]] said
directional fluid insert ~~with said at least one fin~~ is formed as a single-piece plastic molding.

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5. (Original) The filter assembly as defined in claim 1, wherein said directional fluid insert is attached to said first end of said filter element.

6. (Currently Amended) The filter assembly as defined in claim 5, wherein said directional fluid insert includes a snap fit coupling defined by said plurality of axially-extending flexible mounting tabs for securing said directional fluid insert to said first end of said filter element.

7. (Cancelled)

8. (Currently Amended) The filter assembly as defined in claim 1, wherein said at least one fluid-directing fin of said directional fluid insert has a substantially curved fluid deflecting surface.

9. (Currently Amended) The filter assembly as defined in claim 1, wherein said at least one fluid-directing fin of said directional fluid insert has a substantially flat fluid deflecting surface canted at an angle with respect to a central axis of said filter assembly.

10. (Currently Amended) The filter assembly as defined in claim 1, wherein said at least one fluid-directing fin of said directional fluid insert is in the form of a continuous spiral strip.

11-12. (Cancelled)

13. (Currently Amended) The filter assembly as defined in claim 1 [[[11]]], wherein said plurality of said fins at least one fluid-directing fin includes a plurality of fluid-directing fins that are circumferentially spaced from one another about said outer circumferential surface of said base ring, wherein said plurality of fluid-directing fins extend substantially radially from said outer circumferential surface of said base ring.

14-15. (Cancelled).

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16. (Original) A filter assembly for filtering a fluid, said filter assembly comprising:
a substantially annular filter element having first and second ends;
a filter housing containing said filter element, said filter housing having a first end, a second end and a substantially cylindrical side wall defining an annular space between said side wall and said filter element;
an end plate permanently secured to said first end of said filter housing, said end plate having a central fluid outlet and a plurality of fluid inlets therethrough adjacent to said first end of said filter element so that said fluid enters said filter housing through said fluid inlets and flows into said annular space; and
a directional fluid insert having a substantially annular base ring formed integrally with a plurality of fins extending substantially radially from said base ring and disposed between said first end of said filter element and said end plate in order to cause said fluid entering said filter housing through said fluid inlets to swirl around said filter element, each of said fins of said directional fluid insert having a substantially curved fluid deflecting surface;
said directional fluid insert is attached to said first end of said filter element by a snap fit coupling including a plurality of flexible mounting tabs formed integrally with and axially extending from said fins;
wherein said directional fluid insert is formed as a single-piece plastic molding including said snap fit coupling.

17. (Original) A filter assembly for filtering a fluid, said filter assembly comprising:
a substantially annular filter element having first and second ends;
a filter housing containing said filter element, said filter housing having a first end, a second end and a substantially cylindrical side wall defining an annular space between said side wall and said filter element;
an end plate permanently secured to said first end of said filter housing, said end plate having a central fluid outlet and a plurality of fluid inlets therethrough adjacent to said first end of said filter element so that said fluid enters said filter housing through said fluid inlets and flows into said annular space; and
a directional fluid insert having a substantially annular base ring formed integrally with a plurality of fins extending substantially radially from said base ring and a substantially annular

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outer ring substantially concentric to said base ring and connected thereto by a plurality of substantially radial ridges;

said plurality of said fins being disposed between said first end of said filter element and said end plate in order to cause said fluid entering said filter housing through said fluid inlets to swirl around said filter element, each of said fins of said directional fluid insert having a substantially flat fluid deflecting surface canted at an angle with respect to a central axis of said filter assembly;

wherein said directional fluid insert is attached to said first end of said filter element by a snap fit coupling including a plurality of flexible mounting tabs formed integrally with and axially extending from said outer ring;

wherein said directional fluid insert is formed as a single-piece plastic molding including said snap fit coupling.

18. (Previously Presented) The filter assembly as defined in claim 16, wherein the flexible mounting tabs have a spring resistance.

19. (Previously Presented) The filter assembly as defined in claim 18, wherein the flexible mounting tabs include a detent having a bulged leading edge provided at a distal end of the mounting tabs that are adapted to securely engage the first end of the filter element to define the snap-fit connection.

20. (Previously Presented) The filter assembly as defined in claim 17, wherein the flexible mounting tabs have a spring resistance.

21. (Previously Presented) The filter assembly as defined in claim 20, wherein the flexible mounting tabs include a detent having a bulged leading edge provided at a distal end of the mounting tabs that are adapted to securely engage the first end of the filter element to define the snap-fit connection.

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22. (New) A filter assembly, comprising:
a filter element having first and second ends;
a filter housing containing said filter element;
an end plate secured to a first end of said filter housing; and
a directional fluid insert disposed between said first end of said filter element and said end plate, wherein the directional fluid insert includes
a base ring having at least one fluid-directing fin disposed on an outer circumferential surface of said base ring, and
an outer ring integrally-connected to said base ring.
23. (New) The filter assembly as defined in claim 22, wherein said end plate is permanently secured to said first end of said filter housing.
24. (New) The filter assembly as defined in claim 22, wherein said end plate includes
at least one fluid inlet adjacent to said first end of said filter element; and
at least one fluid outlet.
25. (New) The filter assembly as defined in claim 22, wherein said directional fluid insert is formed as a single-piece plastic molding.
26. (New) The filter assembly as defined in claim 22, wherein said directional fluid insert is attached to said first end of said filter element.
27. (New) The filter assembly as defined in claim 26, wherein said directional fluid insert includes a snap fit coupling for securing said directional fluid insert to said first end of said filter element.
28. (New) The filter assembly as defined in claim 27, wherein said snap fit coupling includes a plurality of flexible mounting tabs formed integrally with and axially extending from said directional fluid insert.

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29. (New) The filter assembly as defined in claim 28, wherein said snap fit coupling is defined by one or more of flexible mounting tabs formed integrally with and axially extending away from said outer ring.

30. (New) The filter assembly as defined by claim 22, wherein said outer ring is integrally-connected to said base ring by one or more radially-extending ridges.

31. (New) The filter assembly as defined in claim 22, wherein said at least one fluid-directing fin of said directional fluid insert has a substantially curved fluid deflecting surface.

32. (New) The filter assembly as defined in claim 22, wherein said at least one fluid-directing fin of said directional fluid insert has a substantially flat fluid deflecting surface canted at an angle with respect to a central axis of said filter assembly.

33. (New) The filter assembly as defined in claim 22, wherein said at least one fluid-directing fin of said directional fluid insert is in the form of a continuous spiral strip.

34. (New) The filter assembly as defined in claim 22, wherein said at least one fluid-directing fin includes a plurality of fluid-directing fins that are circumferentially spaced from one another about said outer circumferential surface of said base ring, wherein said plurality of fluid-directing fins extend substantially radially from said outer circumferential surface of said base ring.